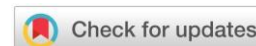




Lesson study for learning community: A way of collegial participation of teachers and lecturers





Dwi Setyawan ^{1,*}, Tutut Indria Permana ², Roimil Latifa ³

Biology Education Department, Faculty of Teacher Training and Education, Universitas Muhammadiyah Malang, Indonesia

¹ dwis@umm.ac.id *, ² tutut.indria@umm.ac.id, ³ roimillatifa20@gmail.com

* Corresponding author

ARTICLE INFO	ABSTRACT
Article history Received November 30 2018 Revised March 28 2019 Accepted April 28 2019	The Lesson Study for Learning Community (LSLC) has become promising for improving school progress. However, there has not been much assistance in the community of teacher learning and collaboration that should lead to new approaches to increase classroom learning quality. This study aimed to explain how the process of assessing and the implementation LSLC at SMA Negeri 4 Malang. This qualitative descriptive study uses teachers and lecturers as research subjects with an unspecified amount in their participation. The data was obtained by using a monitoring checklist, interview, and documentation of the implementation lesson study. The results showed that the application of LSLC was running well, but at the 'Do' phase, there were still observers who worked not following their assignment procedures, and the involvement of teachers in LSLC activities even less. Therefore, it is suggested to implement LSLC which improve collegial participation of teachers and lecturers.
Key word: Collaboration Collegial participation Lesson study for learning community	 <p>This is an open access article under the CC-BY-SA license.</p> 

Introduction

The demand for quality education in the face of 21st-Century education has become commonplace today. Not only the quality of students but also the quality of the teacher. Quality education will be obtained if students and teachers share quality. So there is a need for reformation in the school and the learning process. School reform must have a vision and philosophy of community-based knowledge, multicultural education, modern education that is student-centered with learning abilities and collaborative teaching as a form of professional responsibility.

Learning community is one approach to increasing teacher competency as an

effort to prove the quality of teaching carried out. The learning community is so promising for the improvement of progressive schools, through mentoring the learning and collaboration community of teachers, it is hoping that new approaches will emerge to change the quality of classroom learning. According to [Sato \(2012\)](#), The mission of the learning community in schools is to guarantee the learning rights of each student without exception and improve the quality of learning. The professional learning community is expected to provide the opportunity for teachers as educators to look for various collegial learning approaches and then determine the decisions for learning actions ([Coenders &](#)

Verhoef, 2019). The teachers did not formulate a research question for their research lesson, they did not focus on observing pupil learning, and their lesson was not organized to make collaboration learning (Bjuland & Mosvold, 2015). According to (Nurwidodo, Hendayana, Hindun, & Sarimanah, 2018) From the observations of researchers in several partner schools, findings have been finding including; the lack of collaboration in learning, planning that is not collaboratively designing, the implementation of independent learning and reflection on the learning process has never been doing as the root of the problem.

Improving teaching competence as an effort to improve teacher professionalism has been carried out in many countries around the world (Delvaux et al., 2013). Each teacher in the education unit is obliged to develop interactive, inspirational, fun, challenging learning, motivating students to participate actively, and providing sufficient space to work, be creative and independent according to the talents, interests and physical and psychological development of students. Therefore, learning from the teaching process carried out by oneself and others can be the basis for continuous improvement and professional development (Sugiharto, Prayitno, & Widoretno, 2016). The involvement of teachers in the planning, implementation, and results of learning is an effort to maximize the learning process as a form of teacher professional development based on real experience is a new and actual perspective (Setyawan, 2016; Sugiharto et al., 2016). This problem can be improving through an organized learning community.

Lesson Study (LS) is a model of educator professional development through the study of collaborative and sustainable learning, based on the principles of health to build a learning society. Through LS, four educator competencies can be increasing, namely; personality competence, social competence, professional competence, and pedagogical competence (Skott & Møller, 2017; Susilo, 2013). After LS developed widely in Indonesia, this approach became a massive research study among researchers, and some of them claimed success. According to Setyawan, (2016); Sudirtha, (2017); R. E. Susetyarini, Wahyuni,

& Latifa, (2015); Wahyuni, Susetyorini, & Latifa, (2015) stating the integration of the implementation of lesson study in various learning models can improve students' thinking and learning skills. Next Lamb, (2015); Murtisal, Nurmaliah, & Safrida, (2016) states that it can enhance pedagogical competence and teacher science process skills. Handayani, Ryskiadi, Machrus, & Acik (2007), also noted that the application of lesson study could improve the teaching ability of prospective teachers.

Lesson study for learning community (LSLC), is also increasing in the practice of education in Indonesia, along with various studies, many researchers also believe that building LSLC contributes to helping schools in improving learning. On occasion (7th International Conference on Lesson Study. University of Muhammadiyah Malang: 2-5 November 2016) shows the impact of the implementation of lesson study in schools has begun to be felting among lesson study participants. Some of the results of Indonesia's lesson study reports and reports show that there has been an increase in partner school participation and competency through learning lessons. Through the professional learning community raises natural abilities in solving learning problems (Flores Fahara, Rodríguez Bulnes, & García Quintanilla, 2015; Munthe, Bjuland, & Helgevold, 2016; Shepherd, 2019).

Other impacts of implementing LSLC were also found from teacher professional development through primary and secondary school training through city and district education offices (Nurwidodo et al., 2018). The implementation of LSLC is undoubtedly not easy for learning communities that are just starting. So, this study aims to assist in the implementation of Lesson study for the learning community. Starting from the implementation process of learning planning, the application of learning, and the implementation of reflection between teachers through collaborative practice.

Method

This research is a qualitative descriptive study that aims to provide an overview of Lesson Study Learning for Community assistance as a means of professional development for Senior high school biology teachers in Malang City. The subject of this study focuses on assisting

the implementation of lesson study held between teachers SMA Negeri 4 Malang and Lecturers Faculty Teacher Training and Education University of Muhammadiyah Malang, as an effort to establish LSLC to improve the quality of learning for senior high school students through collegial, collaborative collaboration between teachers and lecturers. The number of LSLC participants involved were two teachers, four lecturers, and one LS expert who had different roles in LSLC involvement. The profile of LSLC participants can be seen in Table 1.

Table 1. Profile of Lesson Study for Learning Community participants State Senior High School 4 of Malang

Teachers/ Lecturers	Gender	Experience
Gunarta	Male	Practitioner/model teacher/observer
Budi	Male	Practitioner/model teacher/observer
Dwi	Male	Practitioner/model teacher/observer
Tutut	Female	Practitioner/model teacher/observer
Eko	Female	LSLC Expert
Roimil	Female	Practitioner/expert companion/observer
Zaenab	Female	Practitioner/expert companion/observer

This research approach uses case studies, which examine the phenomenon under review with two main questions; *how and why* (Bjuland & Mosvold, 2015; Coenders & Verhoef, 2019; Yin, 2018). This research approach uses a case study, which looks at the aspect examined by the study. This study lasted for four learning cycles, one cycle of two meetings, in each period, there was the plan, do, and see. The procedure for data collection is doing through; observation, interviews, and documentation focused on lesson study activities, at SMA Negeri 4 Malang. The means of representation are all lesson study activities from the lesson plan, open lesson, and reflection. Interviews are conducted in unstructured interviews, through free conversation and discussion activities in a planning forum or see the forum. The primary informants were teachers and lecturers who were directly involved and knew the lesson study process. Documentation in the form of lesson study documents is generating from teachers and lecturers in chapter design, lesson design, open lesson, observation

sheets, reflection discussion minutes, student worksheets (LKS), assignments done by students, and various other documents can provide data related to the focus of the research with two main questions.

Results and Discussion

Implementation of lesson study for learning community (LSLC)

Workshop lesson study

The first series of activities by conducting learning workshops. The workshop activity was beginning with the dissemination of the lesson study concept to teachers carried out at the University of Muhammadiyah Malang, which aimed to introduce LS by expert speakers and held discussions between researchers and teachers State Senior High School 4 of Malang. The material presented was about the implementation of Lesson Study, what was LSLC, how was the LSLC, how was the planning of the learning device, how was the application of LSLC (the task of the model teacher and observer), how to carry out reflection. After giving the material, the activity continued with brainstorming between teachers, as well as teachers with resource persons, about LSLC-based learning. The results of brainstorming are expected to be able to arouse the motivation of teachers to be willing and able to innovate, contemplate among fellow participants, and build commitment in the context of implementing LSLC-based learning. This activity is designing for one meeting at the beginning of the event. From this activity, the LS group produced, synchronized the implementation schedule of Lesson Study, open lesson, and the topic of learning that will be carried out during the LSLC mentoring that adapts to the school syllabus.

The initial stages in LSLC formation require a high commitment by the practitioners. Activities carried out collectively, require cooperative collegial teamwork. According to Nurwidodo et al., (2018); Rejeki, Humaira, Maryani, & Nizar, (2018); Susetyarini & Miharja, (2017) several things must be considered in the selection of the lesson study implementation team, among others; have shared hopes and goals, contribute to each other. Each team member must listen and focus on the problem, not on individuals,

team members support each other and provide challenges, team members must fulfill their responsibilities individually, cooperate, maintain interaction and mutual respect, support independence, discipline,

and fair (Coenders & Verhoef, 2019). The full implementation of the Lesson Study for Learning Community program can be seen in Table 2.

Table 2. Implementation of the LSLC program at State Senior High School 4 of Malang

Implementation Date	Type of Activity	Information
July 11, 2018	Coordination and implementation of LSLC	Teams of teachers and lecturers meet with the headmaster The meeting is attending by all teams of teachers and lecturers who were assisted by the vice headmaster of the curriculum Engagement of partner teachers across subjects, and subject teachers in the LSLC program by giving open invitations
July 18, 2018	Early stage planning (determination of activity schedule)	Generate a plan, do, and see implementation schedule
July 18, 2018	Planning and determining LS activities	Produce LS-based learning (Application of the PjBL model to improve critical and creative thinking skills through Lesson Study) Produces Chapter Design and Lesson Plan Determination of teacher model for each cycle and invitation of the teacher as observer
July 21, 2018	Plan, the first cycle	Assistance in implementing the plan, presentation of planning results (Lesson Design) made by the model teacher, and improvement of LS steps/actions
July 23 & 25, 2018	Do, the first cycle	Do phase, the first cycle in class XI IPA 1 (Mr. Gunarta as a model teacher)
July 25, 2018	See, the first cycle	See phase, of the first cycle in class XI IPA 1 and the submission of observer findings
July 28, 2018	Plan, the second cycle	Implementation plan assistance, presentation of planning results (Lesson Design) made by the model teacher, and improvement of LS improvement/action steps in the first cycle
July 30 & August 1, 2018	Do, the second cycle	Do Phase, the second cycle in class XI IPA 1 (Ms. Tutut as a model teacher)
August 1, 2018	See, the second cycle	See phase, the second cycle in class XI IPA 1 and the submission of observer findings
August 4, 2018	Plan, the third cycle	Implementation plan assistance, presentation of planning results (Lesson Design) made by the model teacher, and improvement of LS improvement/action steps in the second cycle
August 6 & 8, 2018	Do, the third cycle	Do phase, the third cycle in class XI IPA 1 (Mr. Dwi as a model teacher)
August 8, 2018	See, the third cycle	See phase, of the third cycle in class XI IPA 1 and the submission of observer findings
August 11, 2018	Plan, the fourth cycle	Implementation plan assistance, presentation of planning results (Lesson Design) made by the model teacher, and improvement of LS improvement/action steps in the third cycle
August 13 & 15, 2018	Do, the fourth cycle	Do phase, the fourth cycle in class XI IPA 1 (Mrs. Rr. Eko as a model teacher)
August 15, 2018	See, the fourth cycle	See phase, the fourth cycle in class XI IPA 1 and the submission of observer findings
September 13, 2018	Making learning video base on LS	Editing video of the plan, do and see activities that have been doing

Planning assistance (Plan), collaborative practice learning tools in LSLC

The implementation of the Lesson Study-based learning workshop with collaborative practice was implementing with the activity of compiling learning tools by participants in the form Lesson

plan (RPP) based on LS. In the process of preparing the learning device, the teacher will get maximum mentoring from the accompanying team. One teacher will get a model lecturer partner, each of whom receives an LSLC expert companion. The mentoring schedule is adjusting to the

school agenda. While the meeting between teachers is planning to be conducted in eight sessions.

The results of this assistance are one chapter design and four Lesson designs for

all LS cycles. Focus on improving student learning, namely, collaborative practice-based learning. The results of monitoring plan activities in assistance LSLC can be seen in [Table 3](#).

Table 3. The results of monitoring plan activities in assistance LSLC

Kegiatan Peserta	Yes	No
Is the purpose of the meeting discussed?	Yes	-
Is the teacher's model determined at the meeting?	Yes	-
Do model lecturers compile lesson designs?	Yes	-
If the model teacher arranges the lesson design, are lesson designs discussed at the meeting?	Yes	-
Does the teacher model research the practice of Lesson Study (determine the research theme, focus of the research, or the primary purpose of the study)?	Yes	-
Are lesson designs arranged together at meetings?	Yes	-
Are the learning objectives discussed in lesson design discussed?	Yes	-
Is the apperception discussed that will be talking when opening the lesson?	Yes	-
Is the learning method/strategy to be used discussed?	Yes	-
Is the learning media discussed to be used?	Yes	-
Is the learning material discussed that will be discussing in the learning process?	Yes	-
Is time management discussed in the learning process?	Yes	-
Is the type of evaluation discussed in the learning process discussed?	Yes	-
Are evaluation instruments discussed that will be using in the learning process?	Yes	-
Was collegiality created during the discussion?	Yes	-

The results of monitoring the LSLC planning activities from [Table 2](#), show that teachers and lecturers can visualize planning activities; as evidenced by the involvement of teachers and lecturers in explaining meeting objectives. Determining teacher models, learning topics, lesson design, learning objectives, apperception activities, methods, strategies, learning media, time management, type of evaluation, evaluation instruments, perceive one hypothesis and solution based on problems that arise from the initial observation of the class before the Lesson Study stage is carried out. All teams are involved and contribute actively in achieving the implementation of Lesson Study. According to [Manrulu & Sari, \(2015\); Murtisal et al., \(2016\); Wood & Cajkler, \(2016\)](#), efforts to improve learning through lesson study must be supported by useful pedagogical competence so that it can be using as a means of learning and improving the quality of teaching resources.

The creation of collegiality between teachers and lecturers in LSLC activities is shown through discussion, analyzing, expressing opinions made by teachers and lecturers in designing learning by learning from each other, and education. This is directly proportional to the results of the study [Lamb, \(2015\); Manrulu & Sari, \(2015\); Shepherd, \(2019\); Skott & Møller, \(2017\)](#) explained that each has a different idea of the method and delivery of material in

shaping the competence of students, while collaboration in discussion groups between lecturers is very supportive in designing a learning, as well as building knowledge where lecturers will learn from other lecturers. While [Flores Fahara et al., \(2015\); E. Susetyarini & Miharja, \(2017\)](#), in his research explained the teachers acknowledged the fact that; 1) the teacher can learn from his colleagues, 2) the learning community is an opportunity for novice teachers to learn from expert teachers and vice versa, and 3) the learning community in the process allows teachers to create projects together and experience a sense of community.

Assistance in the application of biology learning "Do" with collaborative learning based on LSLC

After lesson design and collaborative learning design chapters are compiling, the teacher is asked to do classroom learning with one model teacher and several observers. When implementing learning, the focus of improvement is the ability to think critically and creatively by discussing biological practices. The practice of learning is conducted eight times each meeting (four cycles); the implementation schedule is adjusting to the teacher's program at school. The results of monitoring "Do" activities in assistance LSLC can be seen in [Table 4](#).

Table 4. The results of monitoring "Do" activities in Assistance LSLC

Participant Activities	Yes	No
Before the activity is carried out, is there a learning device that is ready for use, such as; Lesson design, LKS, hand out, and supporting facilities?	Yes	-
Does the teacher appear according to the agreement?	Yes	-
Does the model teacher appear independently (not the team)?	Yes	-
Does the teacher associate the material that has been thinking with the learning activities that will be implementing?	Yes	-
Does the teacher model discuss learning objectives?	Yes	-
Does the teacher model provide apperception in learning?	Yes	-
Does the teacher model provide correct answers to student questions?	Yes	-
Does the teacher model dare to change the design lesson in implementing learning following the learning situation that occurs?	-	No
Does the teacher model use learning media following lesson design?	Yes	-
Does the use of time match the time allocation in lesson design?	Yes	-
Do the observer's activities interfere with the implementation of learning; position blocking the camera, behind the class, observer mobility, observer interaction, seriousness?	Yes	-
Are there observers who help students?	Yes	-
In general, do the observers make observations according to the rules?	-	No
Is the activity observed, prioritized by the model and observer teacher in Lesson Study an activity of student learning?	Yes	-

The results of monitoring the learning activities (Do) in LSLC activities in Table 4 have indicated planned activities. One member acted as a model teacher, and the other members as observers agreed. The focus of the observation is directing directed at student learning activities, with observation instruments from planning activities (plan). However, in this activity there were still observers' activities that were not in accordance with their work standards, including; 1) the activities of the observer disrupted the implementation of the learning (the position of blocking the camera, behind, the mobility of the observer, the interaction of the observer, seriousness), 2) the activity of the observer assisting the students in learning, and 3) the observer making observations not in accordance with the rules.

Lesson study activities have three implementing components, namely model teacher/lecturer, observer, and cameraman. These three components collaborate, namely collaborating, to do their respective tasks to get better results according to the plan. The job of observers should be to observe student learning activities, observe and record each student's response to learning activities that are not following the learning plan (Dudley, 2014; Wood & Cajkler, 2016). The observer should carry out its function without intervening in the ongoing learning, not talking to each other observer, and taking positions that do not interfere with the learning process. So, in the lesson study activities besides determining the class plan for learning

activities, it must also determine the observer's work area. According to the study Pramudiyanti et al. (2017), improvement in observer lesson study skills is influenced by; 1) the observer must know the stages of lesson study and the things done by the team at each stage; 2) the observer must know the limitations of the observer's assignments in lesson study; 3) observers must know how to use instruments that are used to observe the behavior of students who are studying.

Reflection activities (see), biology learning in LSLC

Reflection Activity (See). After doing classroom teaching, the model teacher and some observers reflect on the results of the observation. The findings discussed are the way students learn, the quality of student learning, and the way students get an independent understanding of their learning activities. Reflection is doing according to the number of cycles in learning. The results of monitoring reflection activities in assisting LSLC activities can be seen in Table 5.

The results of the implementation of reflection see from the observation sheet and documents during the reflection activity. Based on Table 5, in reflection activities (see) shows the effectiveness of reflection activities carried out by the LSLC team. It was proved by the activities of teachers and lecturers involved as model teachers and observers who were able to report the results of observations based on concrete and specific evidence. The results

of good reflection must be supported by observation instruments from the model teacher and observer who can represent any categories observed and ease the

explanation of findings, from learning activities to improvement patterns that must be explained by the model teacher or observer.

Table 5. The results of monitoring reflection activities in assisting LSLC

Participant Activities	Yes	No
Does the moderator introduce the lesson study team?	Yes	-
Did the moderator convey the arrangement of the program?	Yes	-
Does the moderator convey an outline of reflection rules?	Yes	-
Does the moderator give the model teacher the first opportunity to convey self-reflection?	Yes	-
Are there observers who share their own experiences?	Yes	-
Are all observers allowed to speak?	Yes	-
Are observer comments based on concrete and specific evidence?	Yes	-
Are the observer's comments more positive?	Yes	-
Are the observer comments more negative towards the model teacher?	-	No
Are there solutive and constructive suggestions?	Yes	-
Are there observers who submit comments according to their views?	Yes	-
Is the discussion-reflection activity dominated by someone or just a few people?	-	No
Can the teacher/lecturer who teaches receive suggestions for improvement?	Yes	-
Are observer comments focused on learning activities?	Yes	-
Do observer comments focus on learning material?	-	No
Do observer comments focus on the way lecturers teach?	-	No
Does the reflection event take place according to the planned program schedule?	Yes	-

The fact shows that reflection activities have led to an increase in the quality of learning, and no negative responses have been finding for the model teacher. The decline in adverse reactions to teacher models can be categorizing as a reflection process that has led to the achievement of the details of the learning process, observers and model teachers are more focused on expressing their findings, leading to evaluation, revealing appropriate solutions to the problems found. In line with the results of the study [Bozkurt & Özdemir, \(2018\)](#) that reflection activities must provide benefits and encourage teachers to make detailed and reliable evaluations, contribute to controlled cause and effect findings, and productive conclusions for their teaching.

Reflections that are carrying out do not only meet the lesson study stage. The results of observation have been well documented, this is because there are adequate reflection guidelines for the means of improving the quality of effective learning. In line with the study [Laelawati, Sriyanti, & Rochintaniawati, \(2016\)](#) that is the reflection guide also influenced the implementation of observer activities. The reflection guide should make it easier for the teacher to present his findings when learning can be reading well and his tendency to facilitate the model teacher as seen from the results of filling out the guidance sheet, especially in identifying student learning indicators.

Other findings in the implementation of LSLC in State Senior High School 4 of Malang

The involvement of teachers and lecturers in the practice of LSLC shows a fairly professional effort, although it can be admitting that the members involved are still few. The implementation of LSLC at SMA Negeri 4 Malang is a new pilot project. The formation of the Lesson Study group was initiated by teachers and lecturers who had been practitioners. The recruitment of its members is based on the involvement of teachers in the research of lecturers, teachers who are voluntary in improving their competence, and the absence of other partner schools. The obstacle that arises and must be a concern is the sustainability of LSLC in the future. In line with the results of the study [Nurwidodo et al., \(2018\)](#) explaining that LSLC materializes and becomes successful, by increasing resources and utilizing partnerships with schools it is essential, in collaboration with schools to implement LSLC, both parties must share the same needs, who face challenges with willingness to work together to solve problems.

Lesson study requires full involvement at each stage. The implementation of the plan, do and see phases in the practice of LSLC in SMA Negeri 4 Malang can be doing well. Making commitments and rules of the game to synchronize schedules can be an obstacle, with members consisting of

teachers and lecturers, it is not possible for each other's activities to become obstacles to being involved in several stages of lesson study. In line with the results of the study Flores Fahara et al., (2015) states that another problem that arises as part of the lesson study is the time constraints faced by teachers because of their busy schedules, which can stop their desire to be involved in it. More than that, schools have not made lesson study as part of learning, so lesson study has not yet fully become an effort to assist teacher professionalism in providing opportunities to increase their competence.

Conclusion

Based on the results of the research, it was found that the implementation of LSLC had been going well. This could be seen in the three stages of lesson study; plan, do, and see in the monitoring sheet showed conformity, although at the "Do" phase there were still observers who worked not following their task procedures, and the involvement of teachers in LSLC activities was still small. Through the results of this study, it was obtained collegial between teachers and lecturers, which can be seen in determining the themes of learning, learning plans, and corrective actions from the results of discussions, and learning from each other. Teachers and lecturers can also visualize abilities in planning, manage problems, make decisions based on hypotheses, solve problems, and reflect on their various practical teaching experiences. Based on the conclusions, the suggestions that can be proposing are that LSLC activities are sustainable, so further assistance is needed in the stage of learning through lesson study, teacher involvement in LSLC activities should be increased by adding participants from teachers across subjects, and making observer skills training programs in activities LSLC in the future.

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